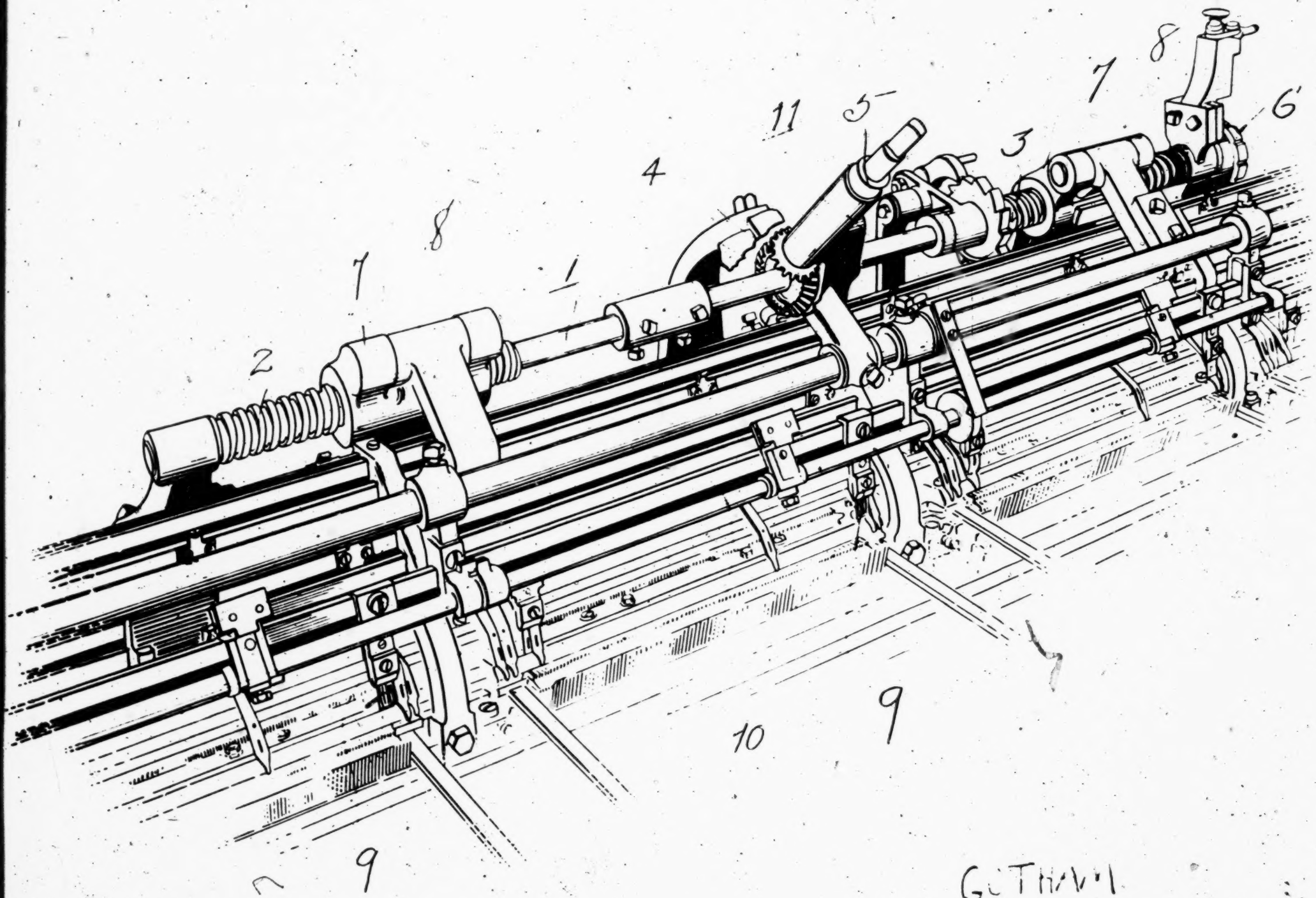
The asserted "invention" of the patent.

To crystalize what is asserted to be the "invention" of the patent over what preceded it, we refer to an attachment to knitting machines known as the "pointed heel" attachment, concerning which there is no dispute either as to its construction and mode of operation, or as to the fact that it was used extensively in the art many years prior to the earliest date claimed for the patent in suit.

Since at least as early as 1912 the hosiery industry has been employing these "pointed heel" attachments with flat or straight full-fashioned knitting machines of the Cotton type for reinforcing (splicing) the heel portion of the stocking. The most common form of this attachment consists of a reversely threaded spindle on which is mounted two spaced stops which move in unison toward or away from each other, depending upon the direction of rotation of the spindle. Such an attachment is illustrated in the so-called "Gotham" attachment here before the Court as Defendant's Exhibit Q[1], and, as a matter of convenience we reproduce here a perspective drawing thereof in evidence as Exhibit T[1] (found in Vol. II, p. 839). The Gotham attachment consists of a spindle (1) having reverse threads (2, 3) at the opposite ends thereof. Each of the threaded ends of the spindle have mounted thereon a threaded stop (8) so that when the spindle (1) rotates in one direction the stops (8, 8) move toward each other; and when the spindle (1) rotates in the opposite direction, the stops move away from each other. The traveling stops (8, 8) control the distance of travel of thread carrier rods which lay a reinforcing thread (in addition to the main body thread) at the heel portion of the stocking. Because the reinforcement was *pointed* (*i. e.*, the reinforcement met at a point above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the heel of the stocking, and gradually widened therebelow), it was necessary to automatically rotate the spindle only in one direction. When the stocking is completed, the spindle is rotated by hand (by mechanism 4, 5) in the opposite direction so that the stops move away from each other and are returned to their initial starting point for fabrication of the next stocking. This manual operation is termed "racking out". To automatically rotate the spindle in the one direction by which it was automatically rotated by power from the main cam shaft of the knitting machine; the spindle was provided with a ratchet wheel (unnumbered, but just to the right of the "racking" mechanism) which was actuated by a pawl, in turn actuated by mechanism put in operation in accordance with the "button" pattern of the old, well-known pattern chain.

In addition to the plaintiff conceding that this type of reversely threaded spindle attachment was used extensively in the art since at least 1912 (Brief, p. 18) it is also conceded that the structure and operation of the attachment is identical in every respect with that of the patent in suit insofar as automatic, pattern chain controlled rotation of the spindle in *one* direction is concerned. It is apparent, therefore, and is likewise conceded by plaintiff, that the only essential difference, structurally or otherwise, between the old Gotham pointed heel attachment and that of the Schletter patent in suit resides in the fact that, while the reversely threaded spindle of the Gotham attachment was automatically rotated in *one* direction, by power derived from the main cam shaft of the machine, the reversely threaded spindle of the patent is selectively rotated in *either* direction by power transmitted from the main cam shaft of the machine. In other words, to reduce the matter to its simplest terms, the Gotham attachment supplied the reversely threaded

spindle with the necessary mechanism between it and the main cam shaft of a knitting machine for automatically rotating the spindle in *one* direction, and the patent in suit proposed to add thereto the necessary mechanism for selectively rotating the spindle in the opposite direction as well.

It is quite obvious, therefore, that the alleged invention of the patent—the sole contribution made by the patentee—consists alone of the mechanism for selectively actuating the reversely threaded spindle of the Gotham attachment in the direction opposite to that in which the mechanism of the Gotham attachment automatically rotates it—or, stated in another way,—in the direction in which the spindle of the Gotham attachment was rotated by hand.

The claims.

An examination of the four claims in suit makes it perfectly apparent that this alone is what is *claimed* as the invention. Thus, claim 14 is directed to the combination in "a straight knitting machine" comprising:

(1) a set of yarn guide carrier bars for operating yarn guides traveling less than the full width of the fabric being knitted.

(2) a spindle having reversed screw threads,

(3) stops operated by said spindle,

(4) *means for turning the spindle in either direction,*

(5) pattern controlled means for determining the time of operation of the spindle, and

(6) *pattern controlled means for determining the direction of rotation of the spindle.*

Claim 15 is directed to the identical combination in slightly different language.

It will thus be seen that these claims depend for their patentability over the Gotham attachment on the "means for turning the spindle in *either* direction" and "pattern control means for determining *the direction* of rotation of the spindle".

Claim 1 recites the combination:

> "In a straight knitting machine,
>
> (1) a pair of opposed stops for certain of said carrier bars which have a stroke less than the full width of the fabric being knitted, and
>
> (2) a reversely threaded spindle for moving said stops toward and from each other to vary the stroke of the bars controlled by said stops."

It will be noted that this claim reads squarely, element for element, upon the Gotham attachment.

Claim 3 is a form of claim, used extensively in British patents, which "builds on" claim 2. Claim 2 adds to the combination of claim 1 the element:

> (3) "pattern controlled means for turning said spindle to vary the distance between said stops",

and claim 3 further defines the "pattern control means" as:

> (4) "being constructed and arranged to turn said spindle *either to increase or decrease the distance between said stops*".

At the outset of the case, therefore, we call attention to the fact that while the *asserted* and *claimed* invention of the patent consists of the necessary mechanism to automatically

and selectively rotate the reversely threaded spindle of the old Gotham attachment in the one direction that it had theretofore been rotated by hand—*that mechanism is neither shown nor described in the patent.*

In addition to the "Gotham" attachment of the prior art, there is evidence in the case of another prior structure identified as the "Nusbaum Machine", which is just as aptly pertinent to the question of novelty of the attachment of the patent in suit as is the Gotham attachment (see drawing thereof, Vol. II, p. 840; and photographs, Vol. II, pp. 830-838). This mechanism has been in existence since 1917. A comparison of this mechanism with the claims of the patent in suit will show that it contains every element of each of the claims in suit, and that each element operates in the same manner and in the same relation to each other as specified in said claims.

The Court of Appeals for the Second Circuit held that the claims of the patent in suit were invalid for want of invention over these two structures. With respect to the Gotham attachment it stated that though it would not have been available to the patentee for his purpose as it stood, and that it therefore did not literally anticipate his invention, it certainly pressed very closely upon it, and left at best a slim margin for invention. It held that this Gotham attachment left nothing which could be called an invention "but the train automatically to reverse the rotation of the screw shaft by the pattern belt" (Vol. II, p. 771).

With respect to the Nusbaum device the Court of Appeals for the Second Circuit stated, in effect, that the Nusbaum mechanism supplied the train of mechanism which was lacking in the Gotham attachment, and held that if there was any novelty left in the patent at all it was because of the novelty of the conception of putting the Nus-

baum attachment upon a "full fashioning" machine because of the technical difficulties of executing that conception. However, it did not consider that the conception of putting the Nusbaum attachment upon a full fashioned machine as involving invention, and also that in so far as the working out of the conception was concerned, though it might be possible that there were, in fact, obstacles enough present to call for substantial inventive capacity, *the patentee did not show in the patent how they were to be overcome.* In other words, the Court held that the patentee had failed to disclose in his specification the only possible invention he could have made, and therefore the working out of the conception was either so plain that it required only commonplace skill, or the specifications are insufficient because they do not give the necessary directions to execute the conception.

Summary of Argument.

The points of argument, in the order in which they will be presented, are:

A. The Schletter patent in suit is invalid because of—

(1) failure to disclose the claimed invention;

(2) inoperability of disclosure;

(3 prior commercial use;

(4) anticipation by and want of patentable novelty over the prior patented art;

(5) want of utility; and

B. The Schletter patent is not infringed.

Argument.

Before taking up the specific points of argument we deem it desirable at the outset to meet and point out the error of three of the general contentions advanced in plaintiff's brief.

1. The first of these contentions is the alleged "commercial success" of plaintiff under the patent. In support of its assertions to this effect plaintiff advances the most extravagant statements, such as

> "the device has filled a long felt want"

(Brief, p. 36): that the need for the device

> "had existed for years, notwithstanding efforts in the industry to fill it"

(Brief, p. 32). These and similar statements bearing on alleged commercial success (Brief, pp. 14, 32-36) are not only unsupported by the record—they are completely and conclusively contradicted thereby.

Thus, we point out—

(a) that plaintiff itself proved in the *Hofmann* case (*Hofmann* Rec. pp. 338, 336) that a full size working machine was allegedly constructed by or for the patentee, and its construction completed by *September, 1921; but it was never commercially operated since its completion, nor were any additional machines like it, or intended for its purpose, built for more than six years thereafter;*

(b) that the first application for the patent for the machine was filed on *June 19, 1922* (as appears on the face of the patent in suit;

(c) that the application for the patent in suit was filed on *November 5, 1925* (as appears on its face);

(d) *that plaintiff did not put on the market its commercial device* (on which it predicates the claim to "commercial success", but which differs radically in many vital respects from the structure of the patent) *until August, 1927; and plaintiff did not acquire title to the patent until December 20, 1929, seven months after its issuance* (Rec. p. 77);

(e) that defendant's device, charged to constitute an infringement, was first sold on October 24, 1927, *over a year prior to the issuance of the patent; and without knowledge thereof* (Rec. p. 223).

From the foregoing the unreality and rash extravagance of plaintiff's assertions will be readily seen. The "long felt want" was supplied in 1921, but the "want" was, in fact, so non-existent that Schletter's full size commercial machine of 1921 did not turn a wheel from 1921 to the present date; *and plaintiff, who assertedly was familiar with the Schletter device from at or about the time of its completion in September, 1921, did not produce a single device until August, 1927, nearly six years thereafter, notwithstanding the fact that it was the largest manufacturer of machinery of this general character in the United States.*

Moreover, when plaintiff did produce its commercial device, on which its asserted "commercial success" is based, it was not the device of the patent but was something wholly and radically different therefrom in vitally important respects, as will be hereinafter pointed out (post, pp. 53-57). *It is not disputed in this case that plaintiff never manufactured a single structure like that shown in the patent.*

Finally, as this Court has frequently stated, *e. g., Paramount Publix Corp.* v. *American Tri-Ergon Corp.*, 294 U. S. 464, 474; it is only when "invention" is in doubt that commercial success may be thrown in the scale. Here there can be no doubt that no invention is disclosed in the Schletter patent; and there likewise can be no doubt that plaintiff's alleged commercial success has been with a device that is wholly different from and foreign to that disclosed by the Schletter patent.

2. The second contention of plaintiff that we desire to initially comment upon is that appearing on page 5 and elsewhere in its brief to the effect that the patent is for an "attachment". Plaintiff seeks to attach significance to that term. As is made apparent by the argument thereafter made by plaintiff, in considering prior art structures, the reason why plaintiff attaches significance to the term is that complete anticipation of the patent claims is found in the prior art structures (*e. g.*, the Lamb and Noon British patent, *post*, pp. 40-45), and the sole basis of attempted differentiation therefrom is the assertion that the structure of the patent in suit is for an "attachment" whereas the identical prior art structures were built into the machine as part of its initial fabrication. While, as a matter of fact, as will be hereinafter pointed out, plaintiff is in error even in this attempted differentiation, the matter is of no moment. A great many of the parts on modern knitting machines had their origin as "attachments" initially applied to machines as they existed prior to the date of the attachment. Thereafter, however, the so-called "attachment" became part of the machine, built therein during fabrication. The same is true in the present instance, for plaintiff itself now "builds in" its new machines the particular mechanism for producing cradle soles, and extravagantly asserts that it could not sell a machine without that mechanism (Plaintiff's brief, p. 14).

Moreover, none of the claims in suit describe the invention as an "attachment" and this was not an oversight. Schletter's solicitor deliberately refrained from so doing. The Patent Office Examiner, in his Office action of January 2, 1926, rejected claims which employed no language which gave any implication of an attachment, as distinguished from a "machine".* In response to this rejection the amendment of January 19, 1927 (on page 3 thereof) strenuously argued that applicant's real invention was for an "attachment" as distinguished from a machine. To this the Examiner replied, in his rejection of July 5, 1927 (*Hofmann* Rec. p. 237):

> "As to the use of an auxiliary pattern chain in this *attachment* should this device be claimed as an *attachment* to the existing *machine*, then such claims, including the extra chain, are on an entirely different basis than the present claims calling for a *machine* having the auxiliary chain. In the present claims the Examiner's position as to the extra chain is stated in the last Office action. Applicant states the utility of an extra chain with this attachment, *but an attachment is not claimed.*" †

The invention was never claimed as an attachment after this action by the Examiner, and an examination of the claims in suit reveals that they are not in terms or intent limited to an attachment for existing machines. Obviously, if the claims are valid, they would be infringed by mechanism built in as part of a knitting machine.

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* The file wrapper of the Schletter patent in suit (Defendant's Exhibit J) was, by stipulation (Vol. II, p. 766), treated for the purposes of appeal as a "physical" exhibit because it had been reproduced in the appeal record in the *Hofmann* case, which was in evidence in the present case as Plaintiff's Exhibit 3. Thus, Defendant's Exhibit J in the present case will be found to be reproduced in the Hofmann record, Vol. II, beginning at page 207. The letter of January 2, 1926, above referred to, will be found on page 229.

† Italics ours in this brief unless otherwise stated.

3. Likewise, and for a similar reason, plaintiff attempts to give some unexpressed limitation to the term "flat" or "straight" knitting machine as used in the specification and claims of the patent. The specification states that the invention "generally stated" has relation to "flat knitting machines for making hosiery of full fashioned type" (p. 1, lines 1, *et seq.*).

Likewise (p. 1, line 45), an object of the invention is specified as providing the device of the patent "for a flat knitting machine" which is provided with a plurality of thread carrier rods and actuating mechanism therefor.

Again (line 59), an object of the invention is advanced as providing the device of the patent for "a flat knitting machine" provided with a plurality of thread carrier rods of particular construction and operation.

Finally (p. 1, line 81), the brief description of Figure 1 of the drawing contains the statement that the device of the patent is shown as applied to "one type" of full fashioned knitting machine known as the "Cotton" machine. It will be observed that all of the foregoing statements apply to and are descriptive of straight or flat knitting machines, irrespective of whether or not they are employed to manufacture hosiery, underwear or fabrics used for other purposes. It will likewise be apparent that the operation of the device of the patent would be the same, and possess the same alleged advantages on any and all fabrics manufactured on a flat or straight machine. In other words, the object of the invention is to supply mechanism which will create designs between the selvage edges of a fabric. It is obvious that the mechanism of the patent would perform that function on any flat knitting machine to which it was attached, and would do so wholly irrespective of whether or not the fabric was fashioned.

Thus, turning to the claims in suit, it will be seen that they are broadly and generically directed to a "straight" knitting machine, and are not limited, by intent or language, to such a machine used for producing hosiery fabric as distinguished from any other type of fabric; nor are they limited to "full fashioned machines", as distinguished from any other type of flat or straight machines. Likewise, the claims are not limited to any particular style of needle machine; or to the angle of disposition of the needles, vertically or horizontally.

In the knitting art the term "straight knitting machine" means any type of knitting machine in which the knitting needles are in a straight line (Rec., pp. 134 *et seq.*). In such a machine there may be a single or double row of needles, vertically or horizontally mounted. The needles may be operated simultaneously or consecutively. The terms "straight machine" and "flat machine" are synonymous, and are synonymously used in the patent specification.

In consequence, plaintiff's desperate effort to avoid the anticipating effect of identical structures of the prior art by reference to such features as the type of needles employed, the angle of the needles, the particular use of the fabric produced, and "fashioning" is not only unwarranted in fact but is wholly unsupported by the language employed in the specifications and claims of the patent.

In considering the claims of the patent, therefore, plaintiff quite brazenly (Brief, pp. 14-17, inclusive) attempts to read into all of the claims "an attachment" for a "Cotton" machine for making "full fashioned hosiery".

That, of course, cannot be done.

We will now take up consideration of the specific points of argument as outlined in the summary of argument.

POINT I.

The patent is invalid for failure to disclose the invention.

We have hereinbefore pointed out that the only asserted or actual contribution made by the patent over the concededly old Gotham attachment is the mechanism for rotating the reversely threaded spindle of the Gotham attachment selectively and automatically, by power, in *both* directions, as distinguished from in one direction. In other words, the invention of the patent is, and of necessity must reside in supplying the necessary mechanical instrumentalities for automatically and selectively rotating the reversely threaded spindle in *either* direction where theretofore this had been accomplished only in *one* direction.

An examination of the patent clearly shows that it is invalid on its face because it fails to show in its drawings, and fails to describe in its specifications, those necessary instrumentalities which alone comprise the asserted and claimed invention.

It is academic that the statutory pre-requisite to the grant of a valid patent is that *what is claimed as the invention must be shown and described*

> "in such full, clear, concise and exact terms as to enable any person skilled in the art or science to which it appertains or with which it is most nearly connected to make, construct, compound and use the same" (Section 4888 R. S.).

Considering this section of the Statute, this Court said, in *Beidler* v. *United States*, 253 U. S. 447:

> "Ever since *Grant* vs. *Raymond*, 6 Pet. 218, 247; 8 L. Ed. 376, 386, it has been consistently held that a

correct and adequate description or disclosure of a claimed discovery (which, in the case of a machine, involves particularly the operation of it) is essential to the validity of a patent, for the reason that such a disclosure is necessary in order to give the public the benefit of the invention after the patent shall expire."

Origin of disclosure in the abandoned application.

To demonstrate the want of disclosure of the claimed invention in the patent throughout its pendency in the Patent Office we start with the origin of the patent, namely, the abandoned application (Defendant's Exhibit K)* referred to in the patent (p. 1, l. 6). Referring to Figs. 1 and 2 of the drawings thereof it will be seen that they are identical with Figs. 1 and 2 of the patent (except in one respect which will be hereinafter mentioned). However, *no operative mechanism of any kind or nature whatsoever is shown for effecting operations of the pattern chain 70,* which selectively effects rotation of the spindle in *either* direction. Fig. 2 is a plan view of the machine where such mechanism, if it had been included in the concept of Schletter, would have been shown. Its complete omission was not inadvertent because reference to Fig. 1, which is a front view in elevation, shows that here, again, the drawing is completely devoid of any mechanism for that purpose. Fig. 3 is a view in end section, taken on the line 3-3 of Fig. 1, and

* The file wrapper of the abandoned Schletter application, Defendant's Exhibit K, was also treated for the purposes of appeal as a "physical" exhibit because it had been reproduced in the appeal record in the *Hofmann* case. Defendant's Exhibit K will be found in the *Hofmann* record (Vol. II, beginning at p. 449). The drawings, to which attention is directed, are reproduced on pages 471 to 475, inclusive.

looking towards the body of the machine. Here, again, if this necessary mechanism was included within the concept of Schletter it would necessarily have been depicted, but it is not.

Thus, it is clear and undisputed that the drawings of the application did not disclose this necessary mechanism.

Turning, then, to the specifications to see whether this defect was supplied by description (and it should be noted that the Statute expressly requires "description" of the invention in the specifications) we find that the only reference therein to this subject is contained in the following sentence:

> "To selectively engage the pawls 25 and 26 before referred to, and thereby determine the direction of rotation of the screw shaft 11, I preferably employ as shown, a second pattern chain 70, to which step by step movement is imparted by a cam shaft actuated lever 71 (see Fig. 6), studs 72 on said chain actuating spring pressed lever 73."

Thus, the description merely states the result desired, and fails to describe any mechanism capable of producing that result.

The first action of the Patent Office Examiner stated:

> "The means for actuating lever 71 should be shown and described." (*Hofmann* Rec. p. 463.)

This requirement was never complied with. On the contrary, even though two claims of the application had been indicated by the Examiner as containing patentable subject matter, the application was abandoned.

The disclosure by the patent in suit.

We next turn to the file history of the application for the patent in suit (Defendant's Exhibit J, reproduced in

Hofmann Rec. p. 207) which was filed nearly three years thereafter, and find that in the amendment of August 25, 1927, it was pointed out that the

> "mechanism of Figs. 1 to 10 is believed to be precisely identical with that in applicant's abandoned case 569,559 filed June 19, 1922".

This statement by Schletter's solicitor was not quite correct because one figure of the drawing, namely Fig. 1, showed in front elevation several undesignated elements which did not appear in Fig. 1 of the abandoned application (see the right end of Fig. 1 of the patent). It is left to one's imagination what these elements are, and what constitutes their structure, function and operation. They are not dignified with any reference numbers, and are not described or even mentioned in the specifications.

The only mention in the specification of any actuation of the auxiliary pattern chain is the verbatim statement above quoted (*supra*, p. 20) which merely states the desired result, without any description of how that result is accomplished, and without any mention of any mechanism necessary therefor (see patent, p. 3, lines 111 to 121 inclusive).

It is quite impossible for any one, even a skilled mechanic, to understand from the undescribed diagrammatic illustration of Fig. 1 just what mechanism was intended, or what its construction or operation was to be (Miller, Rec. fol. 206, p. 145; fol. 305, p. 213). Apparently neither Schletter, his solicitor, nor the draftsman knew what it comprised. This is made evident by the fact that it is not shown in the plan view of Fig. 2, or in the sectional view of Fig. 3, taken on the line 3-3 of Fig. 1 and looking in the direction of the arrows. If any such mechanism existed anywhere in fact, or with

any degree of completeness in the mind of Schletter, his solicitor, or the draftsman, its representation would have inevitably been made in these figures of the drawings.

This mechanism was absent from Schletter's machine.

Moreover, we find that the plaintiff produced in Court in the *Hofmann* suit what purported to be the original attachment constructed by Schletter in 1921, with all of the original parts that were available. *The parts that were not available were those that constituted the operating means for the selective mechanism, which parts, vital though they are, were the ones the patent neither disclosed nor described.* However, for the purposes of the *Hofmann* trial the necessary parts were supplied to the old attachment so as to make it complete, but plaintiff's expert in the *Hofmann* case admitted that the parts that had been supplied differed radically and essentially from anything disclosed in the patent (see Dahn's testimony, *Hofmann* Rec., Vol. I, pp. 106-128; note particularly XQs. 225-226, p. 129).

Another significant fact is that while the want of operable disclosure of this necessary and essential mechanism of the attachment was apparent on the face of the patent, and it was contended in the *Hofmann* case, as it is contended here, that Schletter never had a conception of an operable mechanism, Schletter, the patentee, although alive and residing in Philadelphia at an address known to the officials of the plaintiff company, was not produced as a witness in the *Hofmann* case (*Hofmann* Rec. p. 514), and was not produced as a witness in the present case. His failure to appear as a witness for plaintiff, in view of this defense, certainly cannot be excused because of the fact that he failed to comply with a "request" to attend (Rec. fol. 454, p. 314; fol. 469,

p. 325). He was subject to subpoena in both the *Hofman* case and the present case. It can only be assumed that he was not called as a witness because of the fact that his testimony would be, as the evidence indicates, that he never had a conception of the mechanism necessary for an operative device.

Plaintiff's failure to produce Schletter as a witness in either of the suits, under such circumstances, carries with it the legal presumption that his testimony on this vital part of the case would have been prejudicial to plaintiff. *Kirby* v. *Talmadge,* 160 U. S. 379; *Wigmore on Evidence,* Sec. 285; *Hill* v. *U. S.,* 234 Fed. 39.

Judge Avis in the *Hofmann* case rejected the attack on the validity of the patent on this ground of want of disclosure, with the statement:

> "This objection does not refer to the *idea* but only to *putting that idea into effect,* which, it appears to me, is not a material defect."

Of course, the legal difficulty with Judge Avis' conclusion will be readily apparent.

Contrary to the opinion held by Judge Avis, one cannot obtain a patent for *an idea.* The only thing that can be patented is the instrumentality by which the idea may be put into practice (*LeRoy et al.* v. *Tatham,* 14 How. 156; *Aron* v. *Manhattan Railway Co.,* 132 U. S. 85; *Minerals* v. *Butte,* 250 U. S. 349).

The Court of Appeals for the Third Circuit affirmed Judge Avis without mention of or comment on this subject (or, for that matter, of *any* defense in the case).

The Statute makes no exception to its mandatory requirement of complete disclosure and description of the invention sought to be claimed. The Statute specifically re-

quires *of the inventor* a description of the invention in "clear, concise and exact terms".

It was just this consideration which, many years ago, led this Court to hold, in *O'Reily* v. *Morse,* 15 How. 62, that the disclosure by the inventor should be so full and exact that one could

> *"by using the means he specifies, without any addition or subtraction from them, produce precisely the result he describes."*

Indeed, quite recently, this Court invalidated a patent before it which *disclosed* the claimed invention *in the drawings,* because of failure to comply with the statutory requirement of *describing* the invention in the specifications (*Permutit Company* v. *Graver Corporation,* 284 U. S. 52, 58).

The fact that the patent is insufficient in its disclosure, as charged, is self evident. Indeed, plaintiff in its brief finds it impossible to describe the operation of the structure of the patent from the patent itself, and, of necessity, must resort to a perspective drawing (Plaintiff's Exhibit 15, Rec., p. 366) and a small aluminum model (Plaintiff's Exhibit 11), both of which were prepared for the purposes of litigation (Plaintiff's brief, pp. 10, 11, 36, 37).

Effort is made by plaintiff to meet the obvious insufficiency of disclosure by the patent by the sole argument that the undescribed mechanism shown in the patent drawings is understandable "to those skilled in the art", and the perspective drawing and aluminum model were constructed in consequence. Aside from the fact that this argument, of necessity, avoids consideration of the statutory requirement for *description,* its fallacy will be clearly established from the following considerations.

In the first place, the undescribed disclosure of the patent was called to the attention of plaintiff's expert in the

Hofmann case, and he was asked what the structure was and how it worked. He ventured a "surmise" as to what the mechanism was and how it worked. However, *he was forced to admit that this surmise was merely his guess, was not supported by the drawings, nor by any description in the specification and, in fact, was flatly contradicted thereby* (*Hofmann Rec., pp. 122 et seq.*). How flat falls plaintiff's argument that the disclosure of the patent was sufficient to "those skilled in the art" when *it was insufficient to teach its own expert, who, incidentally, solicited the patent in the Patent Office.*

It was thereafter during the trial of the *Hofmann* case that *plaintiff's then patent solicitor,* Ischinger, created the perspective drawing which is here in evidence as Plaintiff's Exhibit 15, which purported to be a workable arrangement devised by him from the disclosure of the patent. *Ischinger's creation was wholly contrary and flatly contradictory to the structure and arrangement testified to by plaintiff's expert witness who had preceded him on the witness stand in the Hofmann case.*

The small aluminum model was made subsequent to the Hofmann trial, and prior to the trial of the present case. It follows the structure and arrangement in Ischinger's perspective drawing. But, it is one thing to manufacture a small aluminum model with long unsupported shaft and levers which can be operated *by hand,* and an entirely different thing to manufacture a large, practical, commercial machine in accordance with such unorthodox and impractical mechanical distortions, and defendant's expert pointed out the impracticability of a commercial structure built in accordance with Ischinger's ingenious creation (Rec., pp. 218 *et seq.*). And this is in no way affected by the fact that an experimental machine was allegedly constructed by plain-

tiff and testified to by its witnesses Meyer and Greiss, of which photographs are in evidence (Brief, p. 38). This machine was operated *ex parte* for the purposes of this case, *without affording counsel for defendant the opportunity of inspecting the machine.* Obviously it would not have withstood the test of *inter partes* examination.

Likewise, we point out that plaintiff's attempted excuse for the insufficiency of disclosure is in no sense aided by the testimony of its witnesses Hammel and Greiss, who professed a "clear" understanding of the mechanism shown in Figure 1 of the Schletter patent, because *both of them, prior to their testimony, were made thoroughly familiar with the Ischinger drawing and the small aluminum model.* In other words, their "clear" understanding was obtained, not from the patent, but from Ischinger's creation which is unsupported by the patent and contradicted by plaintiff's expert in the *Hofmann* case.

It follows, therefore, that the patent is invalid on its face for want of disclosure or description of the thing that is claimed as the invention thereof.

POINT II.

The patent is invalid for inoperability of disclosure.

This is a defense which was not presented to or passed on by the Courts in the *Hofmann* case.

What is shown and described in the patent does not operate, and is incapable of operation in the manner set forth. In fact, the attachment shown by the patent operates in a manner that is entirely contrary and fatal to the desired operation.

The mechanism is inoperative in two separate and vital respects. This is not a matter of dispute. It appears on the face of the disclosure of the patent, and plaintiff's expert Meyer concluded his admission as to the inoperative disclosure thereof with the statement (Rec. p. 85, fol. 125):

> "If you would construct a machine just as shown in the drawings you could not make anything at all. You could not even knit."

(1) The patent points out (p. 4, lines 63 *et seq.*) that it is absolutely essential to prevent the rotation of the reversely threaded spindle during the narrowing operation of the knitting machine. There is no dispute as to this necessity (see Meyer, Rec. pp. 84, 85). It is admitted in Plaintiff's brief, p. 39. If the reversely threaded spindle should be rotated during the narrowing operation the yarns would be cut off, necessitating the shutting down of the machine, and, probably, would ruin the fabric.

Therefore, the patent describes (at p. 4, beginning at line 46) mechanism which is provided *for preventing the rotation of the reversely threaded spindle during the narrowing operation of the machine.*

Turning to the drawings of the patent, however it will be seen that the reversely threaded spindle *will* rotate during the narrowing operation, and it is impossible, with the mechanism shown and described by the patent, for it to be prevented from so doing. This was unequivocally admitted by plaintiff's expert Meyer as he was taken step-by-step over the disclosure of the patent (Rec. pp. 84 *et seq.*; see also pp. 116, 117). The substance of the matter may be briefly summarized as follows:

During the narrowing operation the main cam shaft 5 (referring, for example, to Fig. 1) moves to the right.

Pausing here for the moment, it will be noted that if the cam shaft 5 did move to the right, the rollers of the cams 45, 51 and 14 (both of them) would fall off of the cams, without any possibility of their returning to the surfaces thereof, with the result that when the cam shaft 5 shifted back to its normal position these various parts of the machine would be broken (Rec. p. 146). The failure to show cams with an idle portion to avoid this possibility was not a mere inadvertence because cams of that character are shown at 34 and 35. These latter cams are the ones which are provided with cam surfaces 34a and 35a which actuate the mechanism for rotating the reversely threaded spindle 11.

It will thus be seen that when the parts of the attachment are in the position shown in Fig. 1 of the drawings, the rollers 30, 31, which control the mechanism for rotating the spindle 11, ride idly on the idling portion of the cam 34, 35. No rotation is imparted to the spindle 11 unless and until the rollers are moved to the left to be brought over the cam surfaces 34a and 35a or *unless the cam surfaces 34a and 35a are moved to the right to be brought under the rollers 34, 35.* When the shaft 5 is moved to the right it brings the rollers and cams in operative relation to each other. Thus, *the reversely threaded spindle is actuated every time narrowing occurs,* with the result that the mechanism shown by the patent, in addition to being absolutely impractical and unworkable, operates exactly contrary to what the patent itself recognizes *must* be its operation to be of any utility whatever.

Plaintiff attempts to cure this fatal defect of the patent by suggesting that narrowing cams (neither shown; described, nor mentioned in the patent) with which the full fashion machine is usually provided, could be used. Plain-

tiff does not state, nor can it state, *how* the use of any such cams would or could cure the defect.

The difficulty with this suggestion is that the *usual* narrowing cams are located at predetermined and fixed positions on the main cam shaft of the machine, so that *additional* narrowing cams (*i. e.,* in addition to the ones normally employed on the machine) must be provided and positioned where the alleged attachment is positioned. Thus, the narrowing cams which plaintiff would supply to the machine to permit operability of the attachment are, of themselves, *necessary parts of the attachment,* and are not shown, described, mentioned, or remotely suggested in the Schletter patent.

However, as above stated, the supplying of narrowing cams would in no sense cure the inoperability of the structure shown in the patent. Plaintiff does not and cannot point out *how* the supplying of such cams will prevent the rotation of the reversely threaded spindle during the narrowing operation of the machine, and it is quite obvious that they could not do so.

Plaintiff in its brief (p. 39) admits, as indeed it must, that this *must* be accomplished; and plaintiff likewise admits that with the structure and arrangement shown in the patent it cannot be accomplished.

(2) There is no way shown in the patent drawings, nor is there any mechanism described, to lift or take out of operation the stops (7) so as to permit idling of the yarn carriers of the machine that are used to produce the fabric panels. The idling of these carriers is absolutely necessary in order to produce the remainder of the stocking fabric after the fabric panels have been knitted. For example, the three carriers which are needed to knit the panels shown in Fig. 10 of the patent cannot be idled, *i. e.,* be pushed to one

end or the other of the needle bed—when it is desired to produce the remainder of the stocking after the design has been formed. In other words, no means are shown in the patent for changing over from split knitting to plain knitting after the lowest point of the design of Fig. 10 has been completed. With the mechanism shown by the patent such a change over, absolutely necessary though it is, is impossible.

At the point, or at least during the knitting of the first course below the lowest point of the design, and in all of the following courses, one of the carriers must knit across the entire width of the fabric, and to permit this the stop for the short stroke carriers *must* be taken out of the way.

Mr. Meyer, plaintiff's expert, admits that the patent drawings do not show any means for lifting the stops 7 out of action (fol. 126, Rec. p. 86).

Thus, it is seen that for this additional reason the mechanism of the patent is wholly inoperative for the purpose of producing the designed stocking leg for which it is presented as being especially provided.

Plaintiff also seeks to cure this deficiency by the knowledge of the imaginary "man skilled in the art" (Brief, p. 40). Plaintiff does not and cannot explain, however, how the co-ordinated and mechanically connected parts of the machine, *as shown and described in the patent,* can be modified to accomplish this.

Indeed, plaintiff places such great reliance on the knowledge of the "man skilled in the art" in supplying the many deficiencies—additional narrowing cams, reversal of timed operation of the spindle relative to narrowing operation, the necessary mechanism for selective automatic operation, the taking out of operation of the undercut stops, etc.—

that it is difficult to understand how that "man" could be seriously described as being so ignorant as to be unfamiliar with the prior well known utilization of the old automatically and selectively rotated reversely threaded spindle.

Indeed, the Court of Appeals below quite appropriately said (Rec. p. 772):

> "Thus he (Schletter) is involved in a not infrequent dilemma of inventors, who seek to incorporate a new element into an old combination. Either the working out of the conception was so plain that it required only common-place skill, or the specifications are insufficient because they do not give the necessary directions."

We submit, therefore, that the patent is invalid because of its inoperability in the two vital respects above considered.

POINT III.

The patent is invalid because of anticipation by and want of patentable novelty over prior commercial structures.

When a flat knitting machine is to be used for manufacturing a particular product it is provided only with such equipment, attachments, etc., as are of particular utility in the manufacture of that particular product. For example, in knitting unfashioned fabrics, the width of the fabric from selvage edge to selvage edge is the same throughout the length of the goods. Thus, after the width of the fabric is initially determined, the end stops (which control the over-all distance of travel of the thread carrier rods) are permanently adjusted, and the thread carrier travels the

full width of the fabric for each course of the machine throughout the entire length of the fabric.

In knitting "fashioned" fabrics, however, such as sweaters, underwear, etc., various portions of the fabric must be wider and narrower than other portions thereof. Thus, for example, in knitting a fashioned sweater, the fabric is wide at the shoulder, gradually narrows to the waist, and again widens at the hips.

Since the earliest days of the knitting industry this "narrowing" and "widening" has been effected automatically, under pattern-chain controlled power, by means of "fashioning mechanism" (see, for example, p. 42 of plaintiff's catalogue of 1920, Plaintiff's Exhibit 6).*

This mechanism contains two essential features. First, the end stops for controlling the travel of the thread carriers (to thereby control the *width* of the fabric being knitted) were made automatically movable in one direction or the other to widen or narrow the fabric, as determined by the pattern chain. This mechanism consisted of a threaded spindle at each end of the machine (or a reversely threaded spindle intermediate the ends thereof), with nuts thereon carrying or forming thread carrier stops against which the thread carrier or its rod contacted, to thereby limit its travel. The spindles were rotated *in one direction or the other* by suitable mechanism under the control of the pattern chain, from the main cam shaft of the machine.

The second essential feature of "fashioning" comprised the mechanism to transfer the loops to or from the particular needles which are put in or taken out of operation during the "fashioning". This was effected by means of movable rods, substantially the same in structure and operation

* This was likewise treated as a physical exhibit on appeal.

as the thread carrier rods, but which, instead of controlling thread carriers, controlled transfer or fashioning needles. However, these fashioning rods had to be varied in position in the same way and coincidentally with the variation in distance of travel imposed on the thread carrier rods by the end stops above described. Thus, and again referring to the old "fashioning" mechanism on page 42 of plaintiff's catalogue, the mechanism that was employed for this purpose consisted of a reversely threaded spindle on each section of which was mounted a nut which carried or formed a stop for the fashioning rods, and which spindle was automatically rotated in either one direction or the other, depending upon whether or not the fabric was to be narrowed or widened, its *time* of rotation and *direction* of rotation being controlled by one or more pattern chains of the machine.

In manufacturing full fashioned *hosiery*, fashioning is necessary only in one direction. In other words, the stocking blank is started at its widest portion, viz: at the top of the stocking, and gradually becomes narrower in width as it approaches the calf of the leg, and is still further narrowed as it approaches the ankle portion. Thus, in hosiery machines only the "narrowing" operation of "fashioning" has been required, and, in consequence, only the mechanism incident to "narrowing" has been essential, although the same or additional equipment incident to "widening" has always been *available if wanted.*

From the foregoing it will be seen that since the earliest days of the industry whenever it has been necessary or desirable to limit the travel of any of the rods of the machine (whether they were thread carrier rods, fashioning rods, or other parts) it has been customary to effect this by a reversely threaded spindle, with nuts traveling thereon,

carrying or forming stops against which the movable rods or parts contact. It will likewise be seen that it has been usual and customary to automatically rotate the spindles in either direction, under pattern chain control, by power supplied from the main cam shaft of the machines. *This is not disputed.*

Turning to the structure of the patent, therefore, it will be seen that there is complete identity between the mechanism there shown and the mechanism which preceded it for many years, operating in exactly the same way, to accomplish exactly the same result.

The Gotham attachment.

The Gotham attachment is a complete anticipation, element for element, of claim 1 of the patent in suit. Concededly it is an attachment used in connection with "straight knitting machines", and has "cooperating yarn guide carrier bars and a pair of opposed stops (8, see drawing Defendant's Exhibit T[1]) * with certain of the carrier bars which have a stroke less than the full width of the fabric being knitted, and a reversely threaded spindle (1, the reverse threads being shown at 2 and 3), for moving the stops towards and from each other to vary the stroke of the bars controlled by said stops".

When the Gotham attachment was made by duplicating the fashioning mechanism, the only reason why *exact* duplication was not made, specifically including selective rotation of the spindle in *either* direction, is because, for the particular purpose for which the attachment was intended (to make pointed heels) automatic rotation in one direction

* See *supra*, p. 6. The testimony and exhibits of the prior Gotham, Nusbaum and Kayser prior uses are stipulated in the present case from the *Hofmann* record.

alone was all that was necessary. To say that it constituted an invention to now supply the parts that, for purposes of economy, were eliminated in the Gotham attachment, and thus merely duplicate a combination of elements that is as old as the full fashioned knitting industry, is repugnant to common sense and to the principles upon which our patent system is based.

Indeed, the Patent Office Examiner expressly held, in effect, that Schletter's claimed invention was anticipated by and presented nothing patentable over Cotton British Patent No. 208,362 of 1922 (Defendant's Exhibit C[1], Rec. p. 704). The Cotton patent shows the Gotham type of reversely threaded spindle pointed heel attachment (the patent, of course, being many years subsequent to Gotham's use). This rejection was first made on July 5, 1927 (*Hofmann* Rec. Vol. 2, pp. 237-238); was repeated on September 6, 1927 (p. 253); *and acquiesced in by Schletter who then filed affidavits assertedly carrying his date of invention back of the effective date of the Cotton British patent.* As a result, the Examiner, in his Office action of March 28, 1928 (p. 267) expressly withdrew the Cotton patent as a reference. *It will be noted that Schletter admittedly can not carry his date of invention back of the Gotham 1912 attachment.*

The Nusbaum machine.

As proof of the fact that when anyone in the industry wanted to utilize the threaded fashioning spindles for controlling thread carrier rods instead of the fashioning rods, and to produce designs in the fabric between the selvage edges thereof, we refer to the prior use by the Nusbaum Company.

Defendant's Exhibit B^2 is a drawing of the mechanism of the Nusbaum machine showing the apparatus as it has existed since 1917 (reproduced Vol. II, p. 840). Defendant's Exhibit Y^1 are photographs of the actual machine which is still in use by the Nusbaum Company (reproduced Vol. II, pp. 830-838). Mr. Boch described the mechanism as shown on the drawing as follows:

At the left end of the machine is the threaded spindle A. At the right end of the machine is a reversely threaded spindle B. The nut on the left spindle is marked C, and the nut on the right spindle is marked D. The fixed stops put on the machine are marked E and F. The ground carrier rod G cooperated with the fixed stops. If the width of the fabric was to be made less, the distance between the fixed stops could be adjusted by means of the adjustable screw H. The carrier rod which effected the plaited design is shown at J, and this rod cooperated with the movable nuts C and D. This rod would traverse between said nuts. The pattern chain is shown at K, and this pattern chain, through the actuating mechanism of the machine would move the nuts C and D towards and away from each other for controlling the design which was made between the selvage edges of the fabric.

Boch produced samples of the work done by the machine (Defendant's Exhibit Z^1). He also produced various samples of designed cloth he had actually made in 1919 (Defendant's Exhibit Z^1).

Comparing this machine, which has been in use since 1917, with the claims of the patent in suit, it is quite ap-

parent that every element of each of the claims in suit is present in the Nusbaum machine, and that each element operates in the same manner and in the same relation to each other as specified in said claims. First, with reference to claim 1, it will be seen that it is a straight knitting machine having cooperating yarn guide carrier bars (J, see drawing Defendant's Exhibit B^2), stops (C and D) for certain of said carrier bars which have a stroke less than the full width of the fabric being knitted, and a reversely threaded spindle (A-B—the spindle is here formed of two pieces) for moving the stops towards and from each other to vary the stroke of the bars controlled by the stops.

Similarly, with respect to claim 3, the rotation of the spindle (both portions thereof) in either direction is automatically effected by the mechanism 3,3 which is controlled by the pattern buttons (K^1) on the pattern chain (K).

With reference to claims 14 and 15 Nusbaum did not use two independent pattern chains. If this is a valid element of differentiation between the Nusbaum machine and these claims of the patent, then defendant's machine cannot infringe because it employs only one pattern chain.

From the foregoing it is obvious that the Schletter patent is invalid in view of the Nusbaum machine, the construction and date of which is not disputed.

We submit as perfectly obvious therefore, that the decision of the Court of Appeals below to the effect that the patent in suit disclosed no invention over either the Gotham or Nusbaum devices was quite correct.

POINT IV.

The Schletter patent is invalid because of anticipation by and want of novelty over prior patented art.

The prior art patents are described and discussed by defendant's expert beginning at page 153 of the record. They show that not only was it old to produce fabrics with any desired designs between the selvage edges of the fabric, but also that the same mechanism as that shown in the Schletter patent was employed for that precise purpose.

Only two of the patents of the prior art will be discussed with any degree of detail, but an examination of the remainder of the patents will show that the alleged invention of the Schletter patent—the utilization of a reversely threaded spindle, selectively rotated in one direction or another to control and vary the travel of thread carrying rods on flat or straight knitting machines—has been utilized practically continuously throughout the history of the knitting industry.

Mather British Patent No. 7476 of 1837
(Defendant's Exhibit Q, Rec. p. 603).

This patent was not considered by the Courts in the *Hofmann* case. As stated in its title, the patent is directed to "Machinery for Knitting Stockings, etc." Certain features of the invention (as stated commencing in line 27, page 2) are drawn to apparatus for

> "conducting, carrying, or traversing the thread across the machine from side to side of the work, with suitable improved mechanism for determining the extent of motion of the 'thread carriers,' that is, effecting the shortening or lengthening of their tra-

> versing motions for the purpose of conducting the thread over a more or less number of 'needles' * * * together with suitable apparatus or mechanism for effecting the 'heeling' of the stocking, or dividing the making the fabric at this time into two, three, or more parts."

The machine is equipped with a pattern control mechanism in the form of a Jackguard which is universally known as equivalent to a pattern chain.

The means shown for accomplishing the stated objects consisted of a reversely threaded spindle (k), most clearly shown in Figs. 3 and 7, and a pair of nuts (i) are fitted thereto, one at each side of the spindle, so that when the spindle is racked in one direction, the nuts (i) will move toward each other, and when the spindle is turned in the other direction, the nuts will move away from each other.

Two carriers (a), as well as another carrier marked (b), are clearly shown in Figs. 1 and 2, and the carrier (b) in large scale in Figs. 6, 7, and 11. These carriers are traversed on a triangular-shaped guideway (d), Figs. 6 and 7; means at each end of the needle section, consisting of collars (f), varied in position by each of the nuts (1), are provided to cause the carriers to lay yarn over a varied number of needles, the stop means shown in the form of these collars (f) being used to not only limit the number of needles receiving yarn, but at the proper time to move the carriers to and from the needles, as early machines of the type herein shown had their needles fixedly positioned so that instead of the needles moving relative to the carriers, the carriers had to move relative to the needles, so that the carrier had to move transversely of the needles to produce a proper selvage.

Thus, this patent discloses a reversely threaded spindle with nuts and yarn carrier stops, stated as being usable to

decrease or increase the number of needles that receive yarn; there are a multiplicity of carriers, and the spindle means provided is intended to rotate in *either* direction to vary the travel of the carriers. Disclosure of the mechanism for racking the spindle in either direction is clearly made (commencing line 27, page 2). Rotation of the spindle was effected manually at this early date due to the fact that electric power was not then available. However, as we will see in connection with other prior art, when electrical power was available, power rotation thereof in both directions was supplied.

It will be seen, therefore, that since the earliest days in the industry it has been customary to use a reversely threaded spindle to limit and control the movement of thread carriers by means of a reversely threaded spindle rotated in either direction.

The Lamb and Noon British Patent No. 15129 of 1889 (Defendant's Exhibit X, Rec. p. 675).

This patent is likewise a complete anticipation of the Schletter patent. For the purpose of detail consideration thereof we direct the Court's attention to the simplified drawings thereof, reproduced directly from Figs. 3, 3A, 4 and 5 of the patent itself, and forming Defendant's Exhibit Z, in the present case (Rec. p. 693). The specification states (p. 2, line 16) that

> "This invention relates to an improvement in the knitting of hosiery with longitudinal or downright stripes"

and (p. 2, line 19)

> "We now propose to produce these downright stripes in a zig-zag form automatically."

The patent then states (p. 2, line 27) it is proposed

> "to give to the striping thread carriers * * * a continuous traverse on one side of the stripe until the required amount of deviation is reached and then to reverse the progressive traverse motion of the thread carriers."

It is obvious, therefore, that the patent purposes to use short-traverse thread carriers that have a varied stroke in *either* direction of traverse.

As stated (commencing with line 39, p. 2):

> "the striping thread carriers * * * are controlled by means of stop slides * * * to produce the irregular stripe, so racking in and out of the pattern, and certain other stops, as to give the several thread carriers the progressive motions required."

The machine of the patent therefore employs a multiplicity of thread carriers capable of producing designs inclined in both directions to the wales. This is made clear by reference to Figs. 3, 8 and 9 in which it will be seen that the zig-zag and other designs are located between the selvage edges of the fabric.

With further reference to the zig-zag design to be produced on the machine, the patent states (p. 2, line 54):

> "The slides (yarn carrier stop slides) will then be racked in the opposite direction, to shift the progressive motion of the thread carriers to the right until the requirements of the zig-zag pattern in that direction are reached. The racking of the slides will now again be reversed, and so on until the zig-zag stripe is completed."

The patent further states (p. 3, line 4):

> "The slides are racked in and out, as required, by a train of gear wheels, which impart an axial motion to the traversing screws of the slides."

These slides (F, Fig. 4) are fitted with a nut threaded to the "traversing screw." The traversing screw, of course, is a spindle.

The machine is shown as having five yarn bars, numbered 1, 2, 3, 4 and 5. In the particular type of fabric that is being produced in Fig. 3, the carriers 1 and 2 produce the fabric from the selvage to the designs, while the carriers 3 and 4 each form one of the two designs, with a carrier 5 producing the body fabric between the two designs.

It is obvious that the attachment of Lamb and Noon was not intended to produce merely one design, such for example as shown in Fig. 3, because other designs are illustrated in Figs. 8 and 9. To produce any desired design the proper carriers would merely be fitted with the proper abutments and stops.

The spindle for the slide (F) is rotated in a step by step manner by the rachet and pawl motion and a train of gears, just as the selvage formation in a regular full fashioned machine is automatically altered to produce wide and then narrow body fabric. The rachets have opposed teeth operated by suitable pawls (i2 and i3) which are connected to a roller lever (I2), said lever being automatically operable by contacting with a cam (I3) attached to the cam shaft of the machine, as shown in Fig. 5, in this manner making it possible to mechanically move the slide (F) either backward or forward, parallel to the carriers.

A pattern chain (I4) is provided with suitable levers and pawl control mechanism for determining which of the pawls (i2) and (i3) are to become active. The same mechanism is provided at the left end of the machine for controlling the stops against which the carrier (2) abuts in its traverse inwardly from left to right.

With the stop slide (F) capable of moving in and out automatically, it is clear how carriers (1) and (2) can knit shorter or longer courses.

In the construction shown by Lamb and Noon, therefore, we have a mechanism that is readily attachable to any straight knitting machine, and one that is specifically shown applied to a Cotton type machine in which spindles are used, certain of which rotate in either direction to varyingly stop carriers in accordance with a pre-selected design; all the parts are mechanically movable, and chain controlled for automatic operation.

Moreover, the patent states (p. 5, line 36):

> "it will be understood that the progress of the stripe may be continued to any desired length through the work. *If, however, it is desired to stop the striping, * * * the thread carrier bars not required for future use, are to be locked out in the usual way.*"

To this end, there are provided means for readily disconnecting the carriers from their driving means, so that any of them may be idled at the end of the needle sections.

The disclosure of the Lamb and Noon patent in this respect is striking in comparison to the disclosure of the Schletter patent in suit *which shows no means of any kind or nature whatsoever to permit taking out of action the pivoted stops 7, and their structure, as shown, prevents this.* The taking out of action of the stops is absolutely essential in order to produce the fabric shown in Fig. 10 of the drawings of the Schletter patent, as hereinbefore pointed out (*supra*, pp. 29, 30).

The Lamb and Noon structure is for *an attachment*, and it is shown for use in conjunction with the usual fashioning mechanism which likewise consisted of reversely

threaded spindles, as was customary in the art. All that Lamb and Noon did, in order to control the movement of thread carriers between the selvage edges of the fabric, was to duplicate the fashioning mechanism which theretofore was used in the machine for controlling the distance of travel of thread carriers from selvage to selvage. This is all that the Schletter patent in suit purports to do. Lamb and Noon duplicated the spindles, divided into two parts, located at opposite ends of the machine and simultaneously operated in either direction, which constituted one type of fashioning mechanism theretofore employed in the art, while Schletter merely duplicated the single spindle structure for the same purpose, and operating in the same way, which constituted another old type of fashioning mechanism in the art.

It should be noted, in addition, that the stop bracket (G—G¹), shown in the Lamb and Noon patent, stops carriers in *both* directions of traverse. This can be clearly seen by examining Fig. 3 in which the stop bracket G, which is mounted on the two-way racking spindle (F), stops the carrier (5) in its movement from right to left, and the carriers (3) and (4) in th movement from left to right.

Thus, in Lamb and Noon the stops are "opposed" stops.

It will be seen from the foregoing that the Schletter patent in suit is completely anticipated by the Lamb and Noon patent.

By the foregoing discussion of the Mather patent of 1837, and the Lamb and Noon patent of 1889, we have shown that since the earliest days of the knitting industry it has been customary to utilize reversely threaded spindles as an attachment to flat or straight knitting machines—

either formed in one piece positioned intermediate the ends of the machine, as in Mather, or in two pieces located at opposite ends of the machine, as in Lamb and Noon—selectively rotated in either direction, in the same way, and for the same purpose, to accomplish the same results, as is stated to comprise the invention of the Schletter patent in suit. Without going into a detailed description thereof we call attention to the following additional patents, from which it will be seen, by mere inspection, the same instrumentalities had been repeatedly utilized, operating in the same way, for the same purpose, throughout the history of the industry.

Roe British Patent No. 1991 of 1869, Defendant's Exhibit S, Rec. p. 631.

Willatt British Patent No. 573 of 1871, Defendant's Exhibit T, Rec. p. 644.

Woodward British Patent No. 19,627 of 1891, Defendant's Exhibit W, Rec. p. 671.

Sowter U. S. Patent No. 478,527 of 1892, Defendant's Exhibit N, Rec. p. 580.

Lieberknecht U. S. Patent No. 981,663 of 1911, Defendant's Exhibit N, Rec. p. 531.

In addition to the Lamb and Noon patent above discussed, we desire to list other instances of the prior art of record where attachments were provided for producing fabrics with designs intermediate the selvage edges thereof. These patents show, contrary to the contentions of the plaintiff, that it was not novel in the industry to produce such designated fabrics.

DePass British Patent No. 10,405 of 1884, Defendant's Exhibit R, Rec. p. 623.

Gee U. S. Patent No. 1,014,753 of 1912, Defendant's Exhibit N, Rec. p. 502.

Cecka U. S. Patent No. 1,180,568 of 1916, Defendant's Exhibit N, Rec. p. 469.

Summary.

It is submitted on the foregoing that the Schletter patent is wholly invalid as completely anticipated by and wanting in invention over the prior published art.

POINT V.

The patent is invalid for want of utility.

The basis for this statement is that the Schletter invention was expressly directed to producing a particular thing, viz: a split seam herringbone suture inclined to the wales. This was what was initially claimed as the invention. The structure as shown and described in the application is admittedly incapable of producing anything else.

An inclined split seam herringbone suture is concededly an impractical and useless thing.

It was only after Schletter's original application had been abandoned and his second application (which matured into the patent in suit) was filed that there was injected in the Schletter specifications any thought of a *spliced* fabric even though the mechanism shown and described was incapable of producing it.

In 1927 a new feature appeared in the market, namely the so-called "cradle soles" which, as the name implies, has to do only with the foot portion of the stocking (Rec. p.

224). It was not until the latter part of August, 1927, that the Schletter specification and claims were completely revamped in the most obvious effort to obtain a monopoly on equipment used for making cradle soles—a purpose not only unthought of by Schletter, but incapable of being accomplished by his apparatus. (See *Lopulco Systems* v. *Bonnot,* 24 Fed. [2d] 510.) It is defendant's machine, used largely if not exclusively for producing cradle soles, that is here before the Court under the charge of infringement.

For the purpose of conclusively establishing the foregoing facts it is necessary to review the metamorphosis of disclosure and claimed invention that occurred in the Patent Office history of the Schletter patent.

The first Schletter application.

On June 19, 1922, Schletter filed his first application for patent (Defendant's Exhibit K)* for "Improvement in *Split Seam* Mechanism for Full Fashioned Knitting Machine." A "split seam" fabric is radically different from a "spliced" fabric. A spliced reinforcement, such as was made by the old pointed heel attachments, employs a reinforcing thread *in addition* to the thread employed in making the body of the fabric, so that throughout the reinforced portion there are two threads. As distinguished from this a "split seam" fabric is one which is composed of several separate fabrics, each of which is made exclusively from its own individual thread, but they are knitted together at their edges by what is termed a "split seam suture."

Having in mind that the Schletter application, as its title emphasized, was for an improvement *in split seam mechanism*—an entirely different type of knitting opera-

* See *Hofmann* record, Vol. II, p. 449.

tion from that of splicing—it will be obvious that mechanism different in details of structure and operation from the old pointed heel splicing attachments would be required. These differences in structure and operation, from that shown by the Schletter application, were:

1. The spaced stops mounted on the reversely threaded spindle of the old pointed heel attachment were not caused, on each course of knitting of the machine, to move *pivotally* about their common axis. In the split seam device of the patent application, however, the spaced stops *must* rock about their common axis during each course of knitting of the machine. The mechanism for rocking the pivoted stops (illustrated in the application drawings by reference numerals 15, 16, 17 and 18) was described in the following language in the Schletter application:

> "The stops 7,7, as shown in the drawings, are pivotally carried at 8,8 in nuts 9,9, respectively non-rotatably mounted on the right and left threaded portions of the screw shaft 11 rotatably carried in fixed brackets 12,12 intermediate the length of the machine and rocking movement from and toward said rods is imparted to said stops by cams 14,14 on cam shaft 5 through levers 15,15 operated thereby and connected by rods 16,16 to a horizontal bar 17 slidably engaging in the rear extension 18,18 of the stops 7,7; *this rocking movement effecting the laying of the cross loops of the split seam and the depth of the undercut portion 10 determining the number of needles engaged thereby;* and rotary movement of the screw shaft 11 adjusting the position of said stops 7,7 in opposite directions".

It will thus be seen that the rocking movement imparted to the pivoted stops 7,7 is essential to the production of split seam fabrics.

2. The stops 7,7 were shown and described (for instance in the foregoing quoted portion of the specification) as being "undercut". This is a feature which is essential for the production of split seam fabrics with "herringbone" sutures with the mechanism of the patent application (Meyer, Rec. p. 125).* It is to bring the undercut portion of the stops into play that rocking movement is necessarily imparted to the pivoted stops. As compared to this, the old pointed heel attachments used solid, non-pivoted stops.

The specification of the Schletter application particularly stressed the utilization of stops of this particular character. They are referred to as "the *special* rod stops 7,7" (specification p. 3); and "the *special* stop employed in my improved attachment" (specification, p. 4); and the specification points out, at its end:

> *"My improved split seam stops, it will be understood, are employed only in producing fabrics having sections of separate yarns as shown in Fig. 10."*

The Schletter specification (p. 7) likewise pointed out that the type of fabric produced by "my oppositely movable *split seam stops"* is "more particularly described in my pending application Serial No. 451,785". Turning to this application (the file wrapper of which is in evidence as Defendant's Exhibit A)† it will be seen that it, in turn, is confined, throughout, to a *split seam* fabric with "herringbone" sutures.

As would be expected, in view of the foregoing, *each of the claims of the abandoned application was expressly limited to this split seam feature.*

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* For a clear, detailed and undisputed description of a "herringbone" suture, and how it is produced, see Miller, Rec., pp. 268 *et seq.*

†*Hofmann* record, Vol. II, p. 323.

Of course, split seam sutures were old in the hosiery industry. They were employed for many years prior to 1922, and had been used very extensively in the art for supplying cotton soles to silk hosiery. In other words, it was an extensively used and old expedient to knit the sole of the stocking from cotton thread and connect the two edges of the fabric, thus formed, to the silk threads by means of a split seam suture. However, *split seam sutures of this type were always in a straight line parallel to the selvage, i. e., parallel to the wales.*

It was the asserted purpose of Schletter's invention, as disclosed in this application, to make "herringbone" split seam sutures *at an angle to the wales of the fabric,* in the same manner and with the same instrumentalities that this result was accomplished in splicing work by the old pointed heel attachment.

Herringbone split seam sutures had always theretofore been made in a vertical straight line for two reasons: In the first place, to produce a suture of this type it is necessary to provide in the machine alternate long and short nose sinkers over the area where the suture is to be placed. This arrangement, and the necessity for it, is not disputed and is clearly explained by defendant's expert Miller (Rec. pp. 187 *et seq.*). However, the use of alternate long and short nose sinkers throughout the entire width of the knitting head, such as would be necessary in order to produce, a herringbone suture anywhere between the selvage edges of the fabric, is impractical and impossible of utilization because of the very serious defects that would occur in the knitting of the stocking fabric, particularly in the sheer type of stocking on the market today (Miller, Rec. p. 194). The second and main reason why sutures of this type have always been in a straight vertical line is because of the fact that when a herringbone suture is inclined to the wales

of the stocking there is produced a drop stitch hole which will "run" and render the stocking useless and unmarketable (Rec. p. 195). This, likewise is admitted (Meyer, Rec. pp. 105 *et seq.*). Unquestionably the Court is familiar with "runs" in silk hosiery. If a thread is broken, or a drop stitch hole is produced, a "run", extending, or capable of extending the entire length of the stocking, results.

In consequence, and this is significant, there is no evidence in this case that there has ever been commercially produced by Schletter, plaintiff, or anyone else, commercial hosiery with a herringbone split design, *inclined to the wales of the fabric.*

Plaintiff's chief engineer and expert Meyer testified (Rec. p. 105):

> "Q. The plaintiff company never sold an attachment which made a herringbone type of suture on a bias to the wales did it? A. *They did not.*"

His testimony, immediately following, explains that the reason why they did not was because it produced the fatally defective drop stitch.

The patent, which is confined in its disclosure to mechanism which is capable of producing only a herringbone split inclined to the wales, in consequence, is completely devoid of utility.*

In all of plaintiff's commercial attachments it was necessary, in order to make the attachment of commercial utility, to depart from the disclosure of the Schletter patent and produce an entirely different type of suture. Thus, plaintiff's commercial attachments, where an inclination to the

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* The second Schletter application showed the same mechanism that constituted the disclosure of the abandoned application. The *specifications* injected the new idea of producing *spliced* or *reinforced* fabrics which *the mechanism shown could not produce.*

wales of the stocking fabric was desired, produce a four needle lap suture (as distinguished from a herringbone suture) whereby the difficulty of the drop stitch hole incident to a herringbone suture (if inclined to the wales of the fabric), was obviated. But a four needle lap suture made a bulky seam in the stocking, especially in sheer hosiery. This, in itself, was a difficulty which plaintiff itself recognized. It required the later invention of one of its employees, Bitzer (see Bitzer Patent No. 1,938,207, Defendant's Exhibit E, Rec. p. 431; see also Rec. p. 107, fol. 154) to devise mechanism which would obviate this defect, and permit the production of a two needle lap suture, other than a "herringbone" which could be inclined to the wales of the fabric without producing a drop stitch hole. (See plaintiff's recent advertisement, Defendant's Exhibits B, Rec. p. 426; and C, Rec. p. 429.) With reference to plaintiff's advertisement (Defendant's Exhibit C) we particularly call attention to what is therein stated, that the attachment for

> "making a cotton sole and cotton cradle foot can now be provided with the Reading 2-Needle Closed Split Attachment. *This device (patent applied for) eliminates the 4-needle overlap which causes a bulky line where sole and instep are joined*".

Note, particularly, the recognition that attachments of this character are now used exclusively for split foot cradle sole work. Note, also, the recognition of the undesirability of the thick suture formed by the 4-needle lap, as compared to the 2-needle lap which the art demands, and has been supplied by defendant since 1928, and is incapable of being supplied by the Schletter device.

It follows, therefore, that the attachment shown and described by the patent is entirely wanting of any commercial utility, and the patent is invalid for that reason.

POINT VI.

The patent is not infringed.

Defendant's mechanism responds to claim 1 of the patent in suit in exactly the same way, and to the same extent that complete response thereof is found in the Gotham attachment. Likewise, claim 3 reads literally on defendant's attachment. However, literal application of the claim to the structure charged to infringe it is not the legal test by which infringement is determined. As was stated by this Court in *Westinghouse* v. *Boyden,* 170 U. S. 537:

> "The patentee may bring the defendant within the letter of his claims, but if the latter has so far changed the principle of the device that the claims of the patent, literally construed, have ceased to represent his actual invention, he is as little subject to be adjudged an infringer as one who has violated the letter of the statute has to be convicted, when he has done nothing in conflict with its spirit and intent."

See also *Cadwell* v. *Firestone Rubber Co.,* 13 Fed. (2) 483, affirmed C. C. A. Second, 23 Fed. (2) 1000; *Cinema Patents Co.* v. *Warner Brothers Pictures, Inc.,* 55 Fed. (2) 948, affirmed, 66 Fed. (2) 744.

A comparison of defendant's machine with the structure shown in the Schletter patent emphasizes the radical differences therebetween. The defendant does not employ pivoted stops which are rocked at each course of the machine to extend the travel of the thread carrier to "float" the thread. In consequence, it is incapable of producing a "herringbone" split seam suture, which is the only type of suture the attachment of the Schletter patent is capable of producing.

Defendant's device employs a stepped stop, but for a purpose radically different from that of the undercut stop of the Schletter attachment. The undercutting of the Schletter attachment is provided for the purpose of forming floating loops in order to produce the herringbone split.

In other words, in the Schletter device *on each course of the machine* the thread carrier hits the high part of the stop, is momentarily held there, and the stop then rocks, allowing the carrier to travel the additional distance of the undercutting. This allows the production of the "floating thread", an essential feature of a herringbone suture. As distinguished from this, defendant's structure employs a stop which *raises* (as distinguished from *"rocks"*) *only when the spindle is turned*. Moreover, it raises *before the carrier rod reaches it* so that the carrier rod has an *unobstructed and undelayed* additional travel the distance of the undercutting to give the thread carrier rod the same distance of travel in the course in which the spindle turned that it had in the preceding course. No floating threads are produced. It is by means of this expedient, which is radically different in concept, structure, mode of operation, and results produced, from anything shown, described or intimated by the Schletter patent, that defendant's attachment is enabled to produce an inclined two needle lap suture, of commercial acceptance, as distinguished from the inclined herringbone split suture of no utility whatever, of the Schletter patent.

Moreover, defendant's attachment differs from the Hofmann attachment in this same respect, with the result that this important and controlling consideration was not before or passed on by the Courts in the *Hofmann* case.

Likewise, the defendant's attachment is adapted to plait or splice. The attachment of the Schletter patent is wholly incapable of either of these operations.

The only things in common between the Schletter and defendant's attachments are the reversely threaded spindle with stops that move toward or away from each other under pattern chain control rotation of the spindle in either direction. In this respect, both of these attachments utilize the identical instrumentalities, operating in the identical way, to accomplish the identical result as in the numerous instances of the prior patented and commercial art hereinbefore discussed.

It is quite obvious, therefore, that under no principle of law, equity or logic can it be concluded that defendant's attachment has appropriated any novel feature disclosed in the patent in suit, or has infringed any claim properly construed to cover such novel feature.

What has been said above applies to claims 14 and 15 as well. Additionally, we call attention to the fact that these claims do not even literally apply to defendant's structure because defendant does not employ a *separate* auxiliary pattern chain for selecting direction of rotation of the spindle. A *single* pattern chain for determining both the time and direction of rotation of the spindle is employed by defendant.

Although the two separate, independent pattern chains are separately claimed as independent elements in claims 14 and 15, plaintiff charges infringement of these claims by the defendant's attachment.

Wholly apart from the violence such contention does to the accepted construction of patent claims, plaintiff is estopped from contending that anything short of *separate* pattern chains can find response in or constitute an infringement of these two claims. This is so because of the fact that in the first action by the Examiner of the Patent Office (dated January 22, 1926), the Examiner rejected claims which apparently differed from the prior art only by

the inclusion of the separate pattern chains. The Examiner said: *

> "Claims 6, 7 and 9 are held not to patentably distinguish by reciting a separate pattern chain to selectively engage the pawls. Pattern chains are well known to control various movements and the Examiner is unable to see any advantage derived by using two instead of one, inasmuch as an addition of the proper lugs to the first pattern chain would fulfill the purpose. If two pattern chains were used for convenience of location, which is the only explanation suggesting itself to the Examiner, then such a use is obviously devoid of invention. Furthermore, Lamb in Fig. 5 uses a pattern chain to selectively engage the pawls."

Schletter's attorney responded to this rejection on January 19, 1927, with this significant argument:

> "*Because the present device is an attachment for a conventional machine, the auxiliary pattern chain is essential,* otherwise the old machine would have to be reconstructed, whereas here applicant merely builds his parts and attaches them to the old machine parts as he finds them."

Apparently, it was as a result of this argument that claims like 14 and 15 which specify *two separate pattern chains,* such as described by the Examiner (but not employed by the defendant) were allowed. In view thereof, plaintiff is estopped from now taking a contrary position and construing claims 14 and 15 as not limited to the plain purport of their terms, namely, to *two separate pattern chains.*

In fact, on July 25, 1928, Schletter applied for a patent, which was granted on March 25, 1930 (Defendant's Ex-

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* Reproduced *Hofmann* Rec. p. 229.

hibit F, Rec. p. 441), for the same reversely threaded spindle mechanism of the patent in suit, in which a distinguishing feature thereover was the utilization of a *single* pattern chain instead of the two pattern chains required by the patent in suit. This later Schletter patent states (page 1, line 10):

> "The structure herein shown has several advantages over that described in said patent (No. 1,713,628, the patent in suit) the first of which is that in the present instance *I require but one chain to operate both the ratchet mechanism and the reversing means therefor.*"

Reference to claim 10 of this later Schletter patent shows that this is specifically claimed as the invention. It should likewise be noted that the necessary operating mechanism for actuating the reversely threaded spindle in *either* direction is for the first time shown and described by Schletter in this patent which was applied for *after defendant's commercial attachment was on the market.*

It is submitted, therefore, that defendant's attachment does not embody any novel feature of the Schletter patent, or any feature to which Schletter is entitled to make claim, and does not infringe any claim of the patent.

Conclusion.

The patent in suit is neither valid nor infringed, wherefore the decree of the Court below should be affirmed.

Respectfully submitted,

SAMUEL E. DARBY, JR.,
WALTER A. DARBY,
Counsel for Defendant.

pp. 3, 4, 7

SUPREME COURT OF THE UNITED STATES.

No. 62.—October Term, 1937.

Textile Machine Works, Petitioner,
vs.
Louis Hirsch Textile Machines, Inc.

On Writ of Certiorari to the United States Circuit Court of Appeals for the Second Circuit.

[January 3, 1938.]

Mr. Justice Stone delivered the opinion of the Court.

This case comes here on certiorari, — U. S. —, to review a decree, in a patent infringement suit, of the Court of Appeals for the Second Circuit, which reversed the district court and held invalid Claims 1, 3, 14 and 15 of the Schletter Patent No. 1,713,628 of 1929, for an attachment for flat knitting machines. — F. (2d) —. The Court of Appeals for the Third Circuit had previously held these claims valid and infringed in *Alfred Hofmann, Inc.* v. *Textile Machine Works,* 71 F. (2d) 973. The patent is for an attachment for "flat" or "straight" knitting machines including machines of the "full-fashioned" type. By use of the attachment, as the specifications state, "yarn-guides can be accurately controlled to lay a yarn over a distance less than the full length of a course being knitted, as for reinforcing or for so-called split-seam work wherein sections of fabric are connected by suture seams." The attachment, it is stated, may be used for "fashioning designs, as clocks, upon hosiery."

Flat knitting machines are adaptable to use in the manufacture of full fashioned garments such as stockings, underwear or sweaters. A characteristic feature of the manufacture is that the garment, or a portion of it, is knitted in a flat web which, in the course of knitting, is shaped by variation of its width, in such a way that it conforms to the contour of the body to be fitted, when its shaped edges are united in a seam. The desired variations in width are secured through control of the traverse or "throw" of the yarn guide which brings the yarn to the needles of the machine as they knit the web. They may be and usually are set up as multiple units in a single machine capable of knitting simultaneously a number of garments of the same type.

The object of the patented attachment in providing accurate controls for yarn guides laying a yarn over a distance less than the full width of a fabric being knitted, is either to knit an additional yarn over a particular area of the main body of the fabric so as to strengthen it or form upon it an ornamental design, or to insert in it "split-seam work", which is a portion of the main fabric knitted with a separate yarn and forming a distinctive design. The attachment makes it possible to lengthen and shorten the throw of the yarn guide, and thus to form designs with reentrant angles in both reinforcement and split-seam work.

The patented device embraces a rotatable spindle having threads cut upon it, in reverse, on opposite sides of its central portion, with a nut mounted upon each of its two threaded parts and moved by its revolutions so that when the spindle is turned in the one direction or the other the nuts are moved by the reversely threaded screws toward or away from each other. Carried on the nuts so as to move with them are yarn carrier stops which are so adapted and located as to serve as controls to limit the travel of carrier rods which have mounted on them the yarn guides. The function of the mechanism is to control the movement of the stops which in turn control the distance of travel of the yarn guides. This is accomplished by the movement of the stop nuts toward or away from each other by the rotation of the threaded spindle in the appropriate direction.

Movement in conformity to a desired pattern is effected by the transmission of power from the main cam shaft of the knitting machine to two ratchet wheels mounted on the end of the threaded spindle, each with an actuating pawl. The two pawls are in such relationship that when one operates its complementary ratchet wheel the spindle will rotate in one direction, and when the other operates its complementary ratchet wheel the spindle will turn in the opposite direction. The operation of the ratchet wheels is controlled by means of buttons, arranged on two endless belts propelled by the main cam shaft. The buttons attached to one of the belts serve to actuate a mechanism which pushes both pawls. The buttons affixed to the other belt govern a mechanism that selectively engages one or the other of the two pawls, and thus determines the direction in which the spindle and hence the stops are to move. By suitable spacing of the buttons on the belts, the motion, which is to be imparted to the stops through the intermediate apparatus, is

controlled in such fashion as to fix in advance the length of throw and hence the outline of the design which is to be incorporated in the main fabric by reinforcement or split-seam work.

Claim 14, which may be taken as typical, defines the invention as the combination "In a straight knitting machine [a] a set of yarn guide carrier bars for operating yarn guides traveling less than the full width of the fabric being knitted, [b] a spindle having reversed screw threads, [c] stops operated by said spindle, [d] means for turning the spindle in either direction, [e] pattern-controlled means for determining the time of operation of the spindle, and [f] pattern-controlled means for determining the direction of rotation of the spindle."

As early as 1912, ten years before Schletter's original application of June, 1922, from which his patent dates, the art had devised an attachment for full-fashioned knitting machines, commercially used for reinforcing the heel portion of the stocking. One form, known as the Gotham, comprised a reversely threaded spindle, on the threads of which were mounted stops moving toward each other when the spindle rotated in one direction, and away from each other when the spindle turned in the opposite direction. The traveling stops controlled the throw of carrier bars with yarn guides which ~~lay~~ laid a reinforcing yarn at the heel of the stocking. As the reinforcement was triangular with the point above the heel gradually widening below without reentrant angles, it was needful to rotate the spindle automatically in but one direction in order to complete the pattern. When the reinforcement had been knitted the spindle was rotated by hand in the reverse direction, or "racked out", until the stops were restored to their initial position, ready to knit the next stocking. A means for automatically rotating the spindle in the desired single direction was provided by a ratchet wheel mounted on the spindle, which was worked by a pawl pushed by a cam on the main shaft; the operation of the pawl was controlled by a mechanism actuated by a "button" type of pattern belt or chain. The reinforcement could not be knitted from a single yarn carrier operating over a single area of the fabric, because the reinforced area was divided, in the completed stocking, by the seam which united the selvages of the stocking web. It was thus necessary to knit the reinforcement in two areas, using two yarn carriers, each with a throw of the desired variation in length, reaching from the selvage on either side of the

stocking web inward upon the main fabric. For this purpose the lugs on the carrier rods which, in cooperation with the stops, controlled the throw, were located between the end stops of the full-fashioned machine and the stops moved by the threaded nuts on the attachment.

It will be observed that this device, while not completely anticipating that of the patent, nevertheless exhibited every element of the claim except the "pattern-controlled means for determining direction of rotation of the spindle." This lack was supplied by Nusbaum, whose machine was in common use as early as 1917. As already indicated, the use of such a device in full-fashioned knitting machines to secure selvage variations was known long before the Schletter application. In order to effect this type of fashioning, the yarn carrier stops were moved and their movements controlled by stop nuts mounted on spindles with threads in reverse located at either end of the knitting machine. Two-way movement of the nuts was effected by mechanisms, under pattern belt control, suitable to rotate the spindle in either direction.

The Nusbaum machine was a modification of the existing flat knitting machine and was designed for knitting reinforcements of variable width on sweaters which were themselves not full fashioned, that is, not narrowed in the knitting. The modification was devised for varying the throw of a secondary yarn carrier supplying yarn to needles knitting upon the main fabric a reinforcement or plaiting. To accomplish this, Nusbaum rebuilt an old full-fashioned machine by using the existing end nuts as a means of controlling the movements of the stops which determine the length of throw of a secondary yarn carrier, and supplying a new carrier bar for the primary yarn. Since the garment was not full-fashioned he placed fixed stops at the ends of the machine so that the throw of the primary thread carrier was constant. He used the old automatically reversible spindle of the full-fashioned machine as a means, wanting in the Gotham mechanism, for increasing or diminishing at will the throw of the secondary yarn carrier. Instead of the single reversibly threaded spindle of the Gotham machine, Nusbaum retained the two threaded shafts located at the ends of the principal machine, each bearing twin ratchet wheels, each of which was operated by a pawl controlled through an intermediate apparatus by buttons appropriately spaced on a pattern

belt. Only a single belt was used bearing four rows of buttons, which by reversing the motion of the spindle as desired operated to vary the throw of the yarn carrier in conformity to the desired pattern.

It is true, as petitioner urges, that the threaded spindles were located at the ends of the Nusbaum machine, and that they were separate shafts although capable of being operated in unison as if united in a single spindle such as that shown by the Gotham attachment. Even with the double spindle synchronously operated instead of the single spindle of the Gotham it was substantially the device claimed by Schletter. In converting a full-fashioned knitting machine into a different type of straight knitting machine which did not fashion the main fabric, Nusbaum embodied in it a device for accurately controlling yarn guides for laying a secondary yarn less than the length of the course being knitted, which was capable of producing designs having reentrant angles. This, according to the specifications, is one of the objects to be achieved by the patented device. The other is the making of multiple designs and split-seam work.

As the pattern of the reinforcement or plait was to be wholly within a single area on the main fabric and did not extend to the selvage, Nusbaum used a single yarn guide instead of the two which were required in the Gotham attachment because the reinforcements were upon detached areas of the fabric. Hence his machine as set up could not do split-seam work or make double designs, which could only be knitted by employing a plurality of yarn guides with corresponding controls. But the use of the device for these different methods of knitting the secondary yarn involves but an obvious adaptation of the claimed combination to the particular work to be done. That may be accomplished by using the device exhibited by Nusbaum as well as that claimed by the patent, with the requisite number of controlled yarn guides in the case of multiple designs and with stops, both sides of which are used as carrier rod controls in the case of split-seam work. This addition of yarn guides and the varied use of the stops, even if invention, are not embraced in the claims before us.

The addition of the reversing mechanism, used by Nusbaum and previously used in the full-fashioned machine, to the elements exhibited by the Gotham, for the purpose of effecting variations in the throw of the secondary yarn carrier in precisely the manner in

which the throw of the primary yarn carrier had been controlled in full-fashioned machines, was plainly not invention. The addition of a new and useful element to an old combination may be patentable; but the addition must be the result of invention rather than the mere exercise of the skill of the calling, and not one plainly indicated by the prior art. *Electric Cable Joint Co.* v. *Brooklyn Edison Co.*, 292 U. S. 69, 79, 80; *Altoona Publix Theatres, Inc.* v. *American Tri-Ergon Corporation*, 294 U. S. 477, 486. The art of machine design in the knitting machine field is a highly developed one. The addition to the combination of the Gotham attachment of a means for automatically reversing the rotary threaded spindle to perform the very function it had performed in the full-fashioned knitting machine was not beyond the skill of the art and was plainly foreshadowed, if not completely anticipated, by Nusbaum.

The claims in suit do not embrace a train of mechanism of any particular type for the transmission of control from the power shaft to the pawls and so cannot rest on any differences between the train employed by Schletter and that of earlier devices. As the court below pointed out, if the patent is valid it is either because of the novelty of the conception of employing the Nusbaum device in an attachment for a full-fashioned machine, which Nusbaum had not done, or because of technical difficulties in executing that conception. If there were such difficulties, which could be overcome only by invention, Schletter did not show what they were or define such an invention by the claims before us. He did show in his specifications how to provide, by familiar mechanical means, for one necessary relationship of the attachment to the principal machine—the necessity that the threaded spindle remain stationary while the fashioning stops are moving. For this no invention is claimed, nor well could be in view of the state of the art.

Petitioner relies on the novelty of conception reinforced by an alleged commercial success. Commercial success may be decisive where invention is in doubt, but an insuperable obstacle to the invocation of that doctrine here is our inability, like that of the court below, to say "that an art which knew how to reinforce 'full-fashioned' webs without re-entrant angles, and straight edged webs with such angles, required some uncommon talent merely to conceive of combining the two, for, as we have said, the patent can only stand on the bare conception."

It is significant that the courts which, in *Textile Machine Works* v. *Alfred Hofmann, Inc., supra,* found invention, supported by commercial success, pointed to the novelty not of this conception but of adding to the elements of the Gotham machine the automatic pattern controlled means for reversing the screw spindle. But neither court made mention of the Nusbaum machine which supplied that element. Upon the record before us we cannot say that the commercial success is attributable to novelty of the bare conception of the use of the attachment with full-fashioned knitting machines rather than to the skill with which the patentee devised mechanisms for making the attachment effective, but for which he made no claim, or to the strength of the hands into which the patent came. Compare *Paramount Publix Corporation* v. *American Tri-Ergon Corporation,* ~~102~~ 294 U. S. 464, 474, with *Altoona Publix Theatres, Inc.* v. *American Tri-Ergon Corporation, supra,* 487.

Affirmed.

A true copy.

Test:

Clerk, Supreme Court, U. S.